



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

April 8, 2004

OFFICE OF THE ADMINISTRATOR  
SCIENCE ADVISORY BOARD

**MEMORANDUM**

SUBJECT: US EPA Advisory Council on Clean Air Compliance Analysis Ecological Effects Subcommittee

FROM: Angela Nugent, Ph.D. /s/  
Designated Federal Officer, Advisory Council on Clean Air Compliance Analysis  
Holly Stallworth, Ph.D. /s/  
Designated Federal Officer, Ecological Effects Subcommittee  
EPA Science Advisory Board Staff Office (1400F)

TO: Vanessa T. Vu, Ph.D.  
Director  
Office of the EPA Science Advisory Board (1400F)

THRU: Daniel Fort /s/  
Acting Deputy Ethics Officer  
Science Advisory Board Staff Office (1400F)

This memo summarizes actions taken in forming a new subcommittee, the Ecological Effects Subcommittee (EES), of the Advisory Council on Clean Air Compliance Analysis (Council). Background information is provided first, followed by:

- 1) a discussion of the Subcommittee's charge;
- 2) the type of subcommittee; the types of expertise needed to address the charge; and the identification of the Subcommittee chair;
- 3) the identification of parties who are potentially interested in or affected by the topic;
- 4) how individuals were selected for the "Short List" posted on the SAB website;
- 5) our review of conflict of interest issues; and lastly,
- 6) our proposal for the final selection of individuals for the Subcommittee.

**A. Background**

In the fall of 2001, the Council issued its review of EPA Office of Air and Radiation's plans for a new major analysis of the Costs and Benefits of the Clean Air Act. In that review, the Council called for a "major effort to develop credible methods to quantify and monetize the effects of marginal changes in air pollution on ecosystem processes" and to include non-market ecosystem services in future Section 812 reports."(*Draft Analytical Plan for EPA's Second Prospective Analysis -Benefits and costs of the Clean Air Act, 1990 -2020: An Advisory by the Advisory Council for Clean Air Compliance EPA-SAB-COUNCIL-ADV-01-004*).

In response, the SAB Staff Office decided to establish the EES and announced the formation of this new subcommittee of the Council in the *Federal Register* on September 9, 2003 (68 FR 53162-53164) See Attachment 1. The EES will assist the Council in providing advice to the Agency regarding assessments of ecological effects related to the impacts of implementing the Clean Air Act (CAA). The SAB Staff Office received 16 nominations for the subcommittee. From those nominations, the Staff Office Director, on the advice of the Designated Federal Officer (DFO) for the Council, Dr. Angela Nugent, selected a “Short List” of 11 experts.

## **B. Determinations**

### **1. The charge to the subcommittee:**

The general charge to the EES will be to assist the Council in:

- (a) reviewing data to be used for any analysis of ecological effects required under section 312 of the CAA;
- (b) reviewing the methodology used to analyze such data and make recommendations on the use of such methodology; and
- (c) prior to the issuance of a report to Congress required under section 312 of the CAA, reviewing the findings of the report and making recommendations concerning the validity and utility of such findings.

### **2. Type of subcommittee; the identification of the Committee Chair; and types of expertise needed to address the charge:**

The Ecological Effects Subcommittee will be a standing subcommittee of the Advisory Council on Clean Air Compliance Analysis. Members of the EES will provide advice to the Agency through the Council over a two-year period. Dr. Charles T. Driscoll, a member of the Council with expertise on complex modeling of the effects of air pollution on forest, aquatic and coastal ecosystems, will chair the Subcommittee.

The *Federal Register* notice cited above identified the types of expertise needed to address the charge to the Subcommittee. Nominations were solicited for Subcommittee members with expertise in one or more of the following areas:

- a) ecosystem effects related to air pollution; and
- b) assessment of ecological effects for benefits analysis.

### **3. Identification of parties who are potentially interested in or affected by the topic to be reviewed:**

Interested and affected parties will be all those involved with air pollution issues and regulatory impact analysis. From the federal community, the EPA Office of Air and Radiation is a prime audience. Other federal agencies, e.g. the Department of Energy and the Office of Management and Budget, may also be interested in the Subcommittee’s work. Environmental groups (e.g. Natural Resources Defense Council, Environmental Defense Fund, Sierra Club, U.S. Public Interest Research Group) and industries regulated under the Clean Air Act may be interested. Finally, academic researchers may also be interested or affected by this topic.

#### **4. How individuals were selected for the “Short List” as candidates for the Subcommittee.**

The DFO for the Council reviewed 16 nominations for the Subcommittee and narrowed the list of nominees to a "Short List" of 11 candidates based on the qualifications and interest of the nominees. Brief biosketches of the 11 candidates on the current "Short List" were posted on the SAB website on January 6, 2004 for a twenty-one day public comment period. The SAB Staff Office invited comments from the public on these candidates, requesting information, analysis or documentation that the Board should consider in evaluating the "Short List" remaining candidates. Comments were received from 8 individuals, listed in Attachment 3.

#### **5. Conflict of Interest Reviews**

Members of any SAB Committee meet the legal definition of an "employee" because they serve as Special Government Employees (SGEs) and, as such, are subject to conflict of interest laws as follows. After the “Short List” of candidates was selected, each candidate was required to submit Form 3110-48, the Financial Disclosure Form for Special Government Employees. Short list candidates were also required to take the SGE ethics training course found at [http://www.epa.gov/sab/sge\\_course/index.htm](http://www.epa.gov/sab/sge_course/index.htm). After receiving the financial disclosure forms, short list candidates were evaluated against the conflict of interest concerns described below.

##### **a) Does the charge involve conflicts of interests in a “particular matter”?**

18 U.S.C. 208 prohibits all employees, including SGEs, from participating substantially in any particular matter that has a direct and predictable effect on their own financial interests or the financial interests of others with whom they have certain imputed relationships. For this criterion to be met, the SGE’s participation in the particular matter must have a “**close causal link**” to their financial interest. Further, the link must be predictable, that is, **actual** and not “speculative.”

In selecting candidates for this Subcommittee, the Ethics and FACA Policy Officer and the Deputy Ethics Official after reviewing each candidates’ confidential financial disclosure forms have concluded that neither condition is met. The “chain of causation” is **attenuated** and contingent upon the occurrence of events that are **speculative**. The Subcommittee will be reviewing a range of documents and methods to assist it in completing its charge. The charge to the Subcommittee does not specify projects that would be the focus of any members’ research efforts that could be funded by EPA. Further, selection of any future grant recipients follows a complex two-stage process in which independent reviewers judge the scientific quality of a proposal and then agency representatives judge the relevance of the proposal to answering major scientific questions within the research area. Thus, actual selection of grant recipients is mediated via a chain of events that attenuates any direct linking of a grant to a member or candidates participation in the review of this research strategy.

**b) Do candidates present an “appearance of impartiality”?**

Candidates for this Subcommittee must also be evaluated under the requirements for considering an appearance of the lack of impartiality under 5 C.F.R. 2635.502(a). This regulation states that “Where an employee knows that a particular matter involving specific parties is likely to have a direct and predictable effect on the financial interest of a member of his household, or knows that a person with whom he has a covered relationship is or represents a party to such matter, and where the person determines that the circumstances would cause a reasonable person with knowledge of the relevant facts to question his impartiality in the matter, the employee should not participate in the matter unless he has informed the agency designee of the appearance problem and received authorization from the agency designee.”

The Ecological Effects Subcommittee’s work does not focus on the interests of specific persons or entities or an identifiable class of persons or entities and therefore does not meet the “specific party” provision. Moreover, the lack of a direct and predictable link between any SGE action on this subcommittee and his or her financial interests would preclude a reasonable person with knowledge of the relevant facts from questioning his or her impartiality in the subcommittee’s work. Furthermore, additional information for this evaluation comes from each candidate’s confidential financial disclosure forms, specific interviews and from information from public comments and other staff research. After reviewing the candidates confidential disclosure forms, the Ethics and FACA Policy Officer and the Deputy Ethics Official concluded that there would not be an issue of an appearance of a lack of impartiality as defined under 5 CRF 2634.502.

**6. The final selection of individuals for the Subcommittee.**

The DFOs and the Chair of the Subcommittee propose the roster of 7 candidates listed in Attachment 4. This selection is based on review of the resumes and *curriculum vitae* of candidates, candidates’ stated views related to the advisory topic, and other information provided by the public during the “short list” phase. The attached roster of 7 candidates reflects the appropriate balance and breadth needed to address the ecological effects of Clean Air Act regulations. This slate of candidates included ecologists with expertise in aquatic and terrestrial ecosystems, atmospheric deposition in lakes and estuaries, nitrogen deposition, fisheries and ecotoxicology. Please indicate your acceptance of this roster in the concurrence line below.

Concurred,

/Signed/

Vanessa T.Vu, Ph.D.  
Director  
EPA Science Advisory Board Staff Office

Attachment 1: *Federal Register* Science Advisory Board Staff Office; Announcement of a New Ecological Effects Subcommittee of the Advisory Council on Clean Air Compliance Analysis, a Request for Nominations, and a Request for Comments on the “Short List” Candidates (68 FR, 53162\_53164)

Attachment 2: Invitation for Comments on "Short List" Candidates for the Advisory Council on Clean Air Compliance Subcommittee on Ecological Effects

Attachment 3: List of the Names of Groups and Individuals Submitting Public Comment on the Ecological Effects Subcommittee Short List

Attachment 4: Roster of Ecological Effects Subcommittee

## **Attachment 1**

### ***Federal Register Science Advisory Board Staff Office; Announcement of a New Ecological Effects Subcommittee of the Advisory Council on Clean Air Compliance Analysis, a Request for Nominations, and a Request for Comments on the Short List” Candidates (68 FR, 53162-53164, September 9, 2003)***

ENVIRONMENTAL PROTECTION AGENCY  
[FRL-7555-8]

Science Advisory Board Staff Office; Announcement of a New  
Ecological Effects Subcommittee of the Advisory Council on  
Clean Air  
Compliance Analysis, a Request for Nominations, and a  
Request for  
Comments on the “Short List” Candidates

AGENCY: Environmental Protection Agency (EPA).  
ACTION: Notice.

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SUMMARY: The Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announces the formation of a new Subcommittee of the Advisory Council on Clean Air Compliance Analysis (Council), requests nominations of candidates, and requests for comments on the proposed candidates for the “Short List”. The Subcommittee will assist the Council in providing advice to the Agency regarding assessments of ecological effects related to the impacts of implementing the Clean Air Act (CAA). The new Subcommittee, for which the SAB Staff Office is soliciting nominations, will be called the Ecological Effects Subcommittee (EES).

DATES: Nominations should be submitted no later than September 19, 2003. Comments on the current or revised “Short List” candidates should be submitted no later than September 29, 2003.

ADDRESSES: Nominations should be submitted in electronic format through the Form for Nominating Individuals to Panels

of the EPA Science Advisory Board provided on the SAB Web site. The form can be accessed through a link on the blue navigational bar on the SAB Web site, <http://www.epa.gov/sab>. To be considered, all nominations must include the information required on that form. Anyone who is unable to submit nominations via this form may contact Dr. Angela Nugent, Designated Federal Officer (DFO), as indicated below. Information on experts also listed as "Short List" candidates, as described below, should also be submitted to Dr. Nugent.

FOR FURTHER INFORMATION CONTACT: Any member of the public wishing further information regarding this notice may contact Dr. Angela Nugent, (DFO), U.S. EPA Science Advisory Board, 1200 Pennsylvania Avenue, NW., (1400A), Washington, DC 20460; by telephone/voice mail at (202) 564-4562, by fax at (202) 501-0323; or via e-mail at [nugent.angela@epa.gov](mailto:nugent.angela@epa.gov).

SUPPLEMENTARY INFORMATION: Summary: The EPA SAB Staff Office is announcing the formation of a new Subcommittee, the EES of the Council and is soliciting nominations for members. The Subcommittee will assist the Council in providing advice to the Agency on characterizing ecological effects related to the Agency's analyses required under section 312 of the Clean Air Act (CAA) of the impacts of the CAA on the public health, economy, and environment of the United States. The Council is a separately chartered Federal advisory committee Federal Advisory Committee Act (FACA), as amended (5 U.S.C. App.).

Background: In the past, the Council has relied on a Subcommittee called the Health and Ecological Effects Subcommittee (HEES) to provide

advice on assessments of both health and ecological effects used in such analyses. On February 14, 2003, the SAB Staff Office published a Federal Register notice ([68 FR 7531-7534](#)), requesting nominations for the HEES as well as for another Subcommittee of the Council, the Air Quality Modeling Subcommittee, and for additional expertise needed for the Council itself. Background on the history and mandate given to the Council may be found in the referenced Federal Register notice.

On May 29, 2003, the SAB Staff Office published on the SAB website a Memorandum entitled ``US EPA Science Advisory Board (SAB) Staff Office's Selection of Experts to Augment the Expertise of the Advisory Council on Clean Air Compliance Analysis to form a Special Council Panel for the Review of the Third 812 Analysis, the Air Quality Modeling Subcommittee, and the Health Effects Subcommittee" (see <http://www.epa.gov/science1/pdf/councilpanelselectionmemo.pdf>) In that memorandum, the Staff Office described its decision to focus the HEES on health effects and to rename it the ``Health Effects Subcommittee" (HES).

The SAB Staff Office made the decision regarding the HES and the decision to establish the EES because of the importance of ecological issues to the Council, which noted in its most recent report, Review of the Draft Analytical Plan for EPA's Second Prospective Analysis- Benefits and Costs of the Clean Air Act 1990-2020, EPA-SAB-COUNCIL-ADV-01-004, that a ``major effort" was needed ``to develop credible methods to quantify and monetize the effects



of marginal changes in air pollution on ecosystem processes' and to include non-market ecosystem services in future reports.

The general charge to the EES will be to assist the Council in: (a)

Reviewing data to be used for any analysis of ecological effects required under section 312 of the CAA; (b) reviewing the methodology

used to analyze such data and make recommendations on the use of such

methodology; and (c) prior to the issuance of a report to Congress required under section 312 of the CAA, reviewing the findings of the report and make recommendations concerning the validity and utility of such findings. Members of the EES will provide advice to the Agency, through the council, over a two-year period.

The initial charge questions to be addressed by the EES related to

the Agency's draft analytical plan are identified below.

Expertise

needed to address these questions and to meet the general charge to the

EES identified in the paragraph immediately above are identified below

under the heading ``SAB Staff Office Request for Nominations."

Subsequent to the publication of the Federal Register notice referenced above, the SAB Staff Office issued another request for

nominations on a related but separate advisory topic. This request was

entitled ``Science Advisory Board; Request for Nominations for Experts

for a Panel on Valuing the Protection of Ecological Systems and Services' ([68 FR 11082-11084](#), March 7, 2003). The charge to this new

Subcommittee is to assess Agency needs and the state of the art and

science of valuing protection of ecological systems and services, and then to identify key areas for improving knowledge, methodologies, practice, and research. This charge includes many of the kinds of issues discussed in the Council Advisory Report for the Agency as a whole. SAB Staff Office decisions relating to the formation of this advisory group, were documented in a memorandum, ``US EPA Science Advisory Board (SAB) Committee on Valuing the Protection of Ecological Systems and Services: Description of Process for Forming the Committee," dated August 11, 2003 and posted on the SAB Web site at <http://www.epa.gov/science1/panels/vpesspanel.html>. The Memorandum identifies the members of the Committee, who were selected from a ``Short List" of 44 experts chosen from the nearly 150 experts nominated through the SAB Staff Office nomination process announced in the March 7, 2003, Federal Register notice.

The SAB Staff Office is issuing this notice in light of three considerations: (1) The February 14, 2003, Federal Register Request for Nominations for the Council and its Subcommittees already included a request for nominees with expertise in ecosystem effects related to air pollution; (2) the ``Short List" of experts resulting from the March 7, 2003, Federal Register Request for Nominations that led to the formation of the Committee on Valuing the Protection of Ecological Systems and Services already included ecologists with expertise appropriate for the EES; and (3) the ``Short List" of ecological scientists resulting from the March 7, 2003, Federal Register notice

included the two ecologists identified in response to the February 14, 2003, call. Considering the experts already identified, the SAB Staff Office will derive an initial ``Short List" for the EES from the experts in ecology identified from the two previous requests for nominations and is providing the public with a brief final opportunity to provide additional nominations before the EES is formed. The

candidates on this initial ``Short List" will be posted on the SAB Web site at

<http://www.epa.gov/science1/panels/scpanel812heesaqms.htm>.

Initial Charge Questions for the EES: The two initial charge questions to be addressed by the EES relate to the Agency's review

document ``Benefits and Costs of the Clean Air Act 1990--2020: Revised

Analytical Plan For EPA's Second Prospective Analysis'and are identified below:

A. Does the Council support the plans described in chapter 7 for  
(a) qualitative characterization of the ecological effects of Clean Air Act-related air pollutants, (b) an expanded literature review, and  
(c) a quantitative, ecosystem-level case study of ecological service flow benefits? If there are particular elements of these plans which the Council does not support, are there alternative data or methods the Council recommends?

2. Initial plans described in chapter 7 reflect a preliminary EPA decision to base the ecological benefits case study on Waquoit Bay in Massachusetts. Does the Council support these plans? If the Council

does not support these specific plans, are there alternative case study designs the Council recommends?

Document Availability: Links to EPA's past studies of the costs and benefits of the CAA, and to review material for the Council and its Subcommittees can be found at the following Web site, maintained by EPA's Office of Air and Radiation at: <http://www.epa.gov/oar/sect812/>. A link to the review document ``Benefits and Costs of the Clean Air Act 1990-2020: Revised Analytical Plan For EPA's Second Prospective Analysis' can be found at <http://www.epa.gov/air/sect812/mainbody51203.pdf>.

SAB Staff Office Request for Nominations: Any interested person or organization may nominate qualified individuals for membership on the EES. Individuals should have expertise in one or more of the following areas: (a) Ecosystem Effects Related to Air Pollution, and (b) Assessment of Ecological Effects for Benefits Analyses.

Process and Deadline for Submitting Nominations or for Submitting Information: Any interested person or organization may nominate qualified individuals to serve as Subcommittee members in the areas described above. The nominating form requests contact information about the person making the nomination; contact information about the nominee; the disciplinary and specific areas of expertise of the nominee; the nominee's resume; and a general biosketch of the nominee indicating education, expertise, past research, recent service on other advisory committees or with professional associations, and recent grant and/or contract support.

Anyone who is unable to submit nominations through the SAB website, or has questions concerning any aspect of the nomination process, may contact Dr. Angela Nugent as indicated above in this FR notice. Nominations should be submitted in time to arrive no later than September 19, 2003.

The EPA Science Advisory Board Staff Office will acknowledge receipt of any nominations received. From the nominees identified by respondents to this Federal Register notice and through other sources (termed the "Widecast"), SAB Staff Office will determine whether individuals will need to be added to the existing ``Short List" of candidates to be considered for the EES. Criteria used by the SAB Staff Office in developing this ``Short List" are given at the end of the following paragraph. The SAB Staff Office will contact individuals who are considered for inclusion in the ``Short List" to determine whether they are willing to serve on the Subcommittee. Any revisions to the ``Short List" will be posted on the SAB Web site at: <http://www.epa.gov/sab>, and will include, for each candidate, the nominee's name and their biosketch. The revised ``Short List" also will be available from Dr. Nugent at the address listed above.

The public is requested to provide to the DFO information, documentation, or analysis about individuals listed on the ``Short List" of candidates for the EES posted on the SAB Web site. The SAB Staff Office will consider this information in making the selection of Subcommittee members. The public is requested also to provide

additional nominations for the Subcommittee following the procedures identified below.

For the EPA SAB, a balanced committee, Subcommittee, or panel is characterized by inclusion of candidates who possess the necessary domains of knowledge, the relevant scientific perspectives (which, among other factors, can be influenced by work history and affiliation), and the collective breadth of experience to adequately address the charge. Public responses to the ``Short List" candidates will be considered in the selection of the Subcommittee members, along with information provided by candidates and information gathered by EPA SAB Staff Office independently on the background of each candidate (e.g., financial disclosure information and computer searches to evaluate a nominee's prior involvement with the topic under review). Specific criteria to be used in evaluating individual nominees include:

- (a) Scientific and/or technical expertise, knowledge, and experience
- (primary factors); (b) absence of financial conflicts of interest;
- (c) scientific credibility and impartiality; (d) availability and willingness to serve; and (e) ability to work constructively and effectively in committees.

Those ``Short List" candidates ultimately chosen to serve on the Subcommittee will be appointed as Special Government Employees. Therefore, all ``Short List" candidates will be required to fill out

the "Confidential Financial Disclosure Form for Special Government Employees Serving on Federal Advisory Committees at the U.S. Environmental Protection Agency" (EPA Form 3110-48). This confidential form allows Government officials to determine whether there is a statutory conflict between that person's public responsibilities as a Special Government Employee and private interests and activities, or the appearance of a lack of impartiality, as defined by Federal regulation. The form may be viewed and downloaded from the following URL address: <http://www.epa.gov/sab/pdf/epaform3110-48.pdf>.

Dated: August 27, 2003.  
Vanessa T. Vu,  
Director, EPA Science Advisory Board Staff Office.

## **Attachment 2**

### **Invitation for Comments on "Short List" Candidates for a new Ecological Effects Subcommittee of the EPA Advisory Council on Clean Air Compliance Analysis January 6, 2004**

The EPA Science Advisory Board (SAB) Staff Office announced in 68 FR 53162-53164, September 9, 2003 that it was forming a new subcommittee of the Council to help provide advice to the Agency for characterizing ecological effects and requested nominations for potential subcommittee members. Background on the project and details on the panel nomination process appear in the above referenced Federal Register notice and are also available at the SAB website, (<http://www.epa.gov/sab>).

The SAB Staff Office has reviewed the 16 nominations for the subcommittee, and has narrowed the list of nominees to 11 candidates based on the qualifications and interest of the nominees. Brief biosketches of the candidates are listed below for comment. We hereby notify the public about these candidates and welcome information, analysis or documentation that the SAB Staff Office should consider in evaluating these experts to serve on the subcommittee. Individuals should send their comments to Dr. Angela Nugent, Designated Federal Officer for the Council, by January 27, 2004, via email to [nugent.angela@epa.gov](mailto:nugent.angela@epa.gov). Information provided will be carefully considered in selecting the subcommittee.

The SAB Staff Office Director, in consultation with the Chair of the Council, as appropriate, makes the final decision about who will serve on the subcommittee. The SAB Staff will complete its review of information regarding financial conflicts of interest, possible appearance of a lack of impartiality, and appropriate balance and breadth needed to address the charge. SAB Staff will review all the information provided by the candidates, any information that the public may provide in response to the posting of information about the prospective members on the SAB website, and information gathered independently by SAB Staff on the background of each candidate.



### **Attachment 3**

#### **List of the Names of Groups and Individuals Submitting Public Comment on the Ecological Effects Subcommittee Short List**

Dr. Gilberto Alvarez, Region 5, US Environmental Protection Agency

Mr. Stephen E. Chester, Department of Environmental Quality, State of Michigan

Dr. Lawrence J. Fisher, Michigan State University

Mr. G. Vinson Hellwig, Department of Environmental Quality, State of Michigan

Dr. Bette J. Premo, White Water Associates, Inc.

Mr. Michael V. Ruby, Exponent

Ms. Tamara Saltman, Office of Air and Radiation, US Environmental Protection Agency

Dr. George Wolff, General Motors

## **Attachment 4**

### **U.S. Environmental Protection Agency Advisory Council on Clean Air Compliance Analysis Ecological Effects Subcommittee**

#### **CHAIR**

**Dr. Charles T. Driscoll, Jr.**, Distinguished Professor and Chair, Department of Civil and Environmental Engineering, College of Engineering and Computer Science, Syracuse University, Syracuse, NY

#### **MEMBERS**

**Dr. Elizabeth Boyer**, Assistant Professor, Forest and Natural Resource Management, College of Environmental Science and Forestry, State University of New York, Syracuse, NY

**Dr. Mark Castro**, Associate Professor, Appalachian Laboratory, Center for Environmental Science, University System of Maryland, Frostburg, MD

**Dr. Christine Goodale**, Assistant Professor, Department of Ecology and Evolutionary Biology, Cornell University, Ithaca, NY

**Mr. Keith Harrison**, Executive Director, Michigan Environmental Science Board, Lansing, MI

**Dr. Scott Ollinger**, Assistant Professor, Institute for the Study of Earth, Oceans, and Space, University of New Hampshire, Durham, NH

**Dr. Ralph Stahl**, Principal Consultant, Corporate Remediation Group, Dupont, Wilmington, DE